

ARIZONA STATE TREASURER



EILEEN I. KLEIN TREASURER

Investment Summary | June 2018

Overall Performance - Where We Are Now |

- State Agency Pools:
 - Total assets: \$6,240,555,467.
 - Total earnings distributed: \$14,288,235; Fiscal YTD: \$88MM, +\$28.3MM YoY.

Outlook

The GDP for second quarter 2018 came in very strong at 4.1%. This number was highly anticipated and when measured in combination with rising wages, lower taxes and strong consumer sentiment contributes to the plausibility of continued domestic growth. Looking forward, 2018 GDP is on course to finish in the 3.4+ range. This will likely reinforce The Federal Reserve's plan for two more .25 basis point hikes in 2018.

Strategy: Monthly Commentary

Throughout June we kept duration short in anticipation of approximately \$2.0B in state bills at the start of the fiscal year. After both Federal Reserve interest rate moves we will be extending duration. As we look at longer durations, some of our investment allocation will be to add floating rate US government notes and bonds that have interest rate floors or put provisions as protection against a change in interest rate trends. This protection gives us upside participation and downside protection for a minimal cost to yield.

Alternative Scenarios

There are several scenarios we continue to monitor which could change our expectations that the Fed will raise interest rates. The possibility of sanctions on Turkey. The Turkish government tried to get the present administration to lift a ban on a Turkish bank that ignored the Iranian embargo. The Turkish lira and equity markets continue to decline, adding more pressure to an unstable government that is a member of NATO.

The Chinese trade war seems to have abated for now but still remains a concern. What we export to China are necessities, what they export are non-essential products. We believe this balance will be support the domestic markets through this tension. Additionally, the possibility that European rates stagnate or revert to negative levels could put significant pressure on the Federal Reserve to delay or put-off future hikes. We have contingency plans should these events cause us to change our current optimistic outlook.

State Agency Investment Pool Balances |

	June 29, 2018	June 30, 2017	FY Change
Pool 2 FF&C	\$958,195,838	\$888,957,803	+69,238,035
Pool 3 Internal	2,424,731,511	2,061,961,527	+362,769,984
Pool 3 External	105,487,890	104,265,678	+1,222,212
Pool 4 Gov.	846,617,046	891,519,668	-44,902,622
Pool 10 Internal	1,020,766,026	975,818,044	+44,947,982
Pool 10 External	147,701,060	265,421,396	-117,720,336
Pool 12 CAWCD	387,415,990	366,183,710	+21,232,280
Pool 16 ECDHB	349,640,104	353,153,272	-3,513,168
TOTAL STATE AGENCY	\$6,240,555,467	\$5,907,281,103	+333,274,364

Local Government Investment Pools (LGIP) Summary

Overall Performance – Where We Are Now

- Local Government Investment Pools:
 - Total assets: \$3,198,677,157.
 - Total earnings: \$44,489,885; +\$25MM over June 2017.
 - Total fiscal year yields:
 - o Pool 5: 1.38%; 76bps higher than June 2017.
 - o Pool 7: 1.24%; 75bps higher than June 2017.
 - o Pool 500: 1.87%; 46bps higher than June 2017.
 - o Pool 700: 1.64%; 49bps higher than June 2017.

Strategy: Targeting Duration

Now that we have made it through the fiscal year we will begin to extend our duration in Pools 5 and 7. We expect the Fed to raise rates in September's FOMC meeting and will use this meeting as a target date for new maturities. At that time, we plan to invest a larger portion of the cash balances, targeting a liquidity allocation in the short-term pools of approximately 10% to 15% cash and the remainder being higher yielding investments. As expected, due to participant activity, total market values declined in both 5 and 7 from the month of May by a combined \$414,956,552. This decline is not expected to continue in the coming months, but the target allocation should provide sufficient liquidity for participant needs.

Pools 500 and 700 will maintain our short-duration strategy through the remainder of the year, continuing our defensive approach for these intermediate-term pools during an increasing interest rate environment. That being said, we have been looking for opportunities along the curve as we look to take advantage of the continued flattening trend. Participant activity has also been more prevalent this year, which will require slightly more liquidity than in the past.

LGIP Investment Pool Balances

	June 29, 2018	June 30, 2017	FY Change
Pool 5 LGIP	\$1,356,271,138	\$1,150,767,283	+205,503,855
Pool 7 LGIP FF&C	1,361,647,788	1,349,120,879	+12,526,909
Pool 500 LGIP Med.	342,488,316	346,654,417	-4,166,101
Pool 700 LGIP Med FF&C	138,269,915	146,273,792	-8,003,877
TOTAL LGIP	\$3,198,677,157	\$2,992,816,372	+205,860,785

Endowment Summary

Overall Performance – Fiscal Year in Review |

FY 2017-2018	PLETF +9.09 vs Benchmark +8.89%				
	Total		Common School (K-12)	YOY Change	
PLETF Ending Market Value	\$5,908,457,000	5.27%	\$5,502,918,000	5.37%	
Land Proceeds	\$108,965,158	-33.38%	\$106,150,403	-30.87%	
Prop 123 Distributions	\$316,998,617	9.33%	\$294,793,058	9.36%	
Unrealized Gains	\$3,075,893,000	14.89%	\$2,866,266,000	15.01%	
Realized Gains	\$231,082,056	32.60%	\$214,745,056	32.05%	

FY 2016-2017	PLETF +11.25% vs Benchmark +11.13%				
	Total	YOY Change	Common School (K-12)	YOY Change	
PLETF Ending Market Value	\$5,612,414,000	8.63%	\$5,222,529,000	8.67%	
Land Proceeds	\$163,553,318	55.23%	\$153,550,774	50.93%	
Prop 123 Distributions	\$289,935,195	4.50%	\$269,558,521	3.97%	
Unrealized Gains	\$2,677,241,000	22.20%	\$2,492,113,000	22.28%	
Realized Gains	\$174,266,315	-9.47%	\$162,629,446	-9.06%	

Big Picture:

- ➤ PLETF has outperformed again for FY2018
- > Total annualized return was 9.09% vs Benchmark 8.89% better by 20basis points overall
- Annualized 10-Year total return through June is 7.73%
- Fair Market Value: \$5.91B
- ➤ Up \$4.4MM MoM
- ➤ Up \$296MM YoY
- Unrealized Gains: \$3.1B (Up \$399MM or 14.9% YoY)
- > June Realized Gains: \$40MM
- FYTD Realized Gains: \$231MM (Up \$56.8MM or 32.6% YoY)
- ➤ June TRR PLETF 0.39% vs Benchmark 0.33% better by 5+basis points
- Pool 205 Fixed Income massively outperformed Citi BIG Index by 64bps FYTD

FY 2018 Performance versus Largest US Pension System:

Endowment	AUM	1-Year %	3-Year %	5-Year %	10-Year %
Arizona PLETF	\$5 . 9B	9.09%	7.84%	8.91%	7.73%
CalPERS	\$351B	8.60%	N/R	8.1%	5.6%
Alpha		+0.49%	N/R	+0.81%	+2.13%

Source: CalPERS, ASTO

Year-In-Review: Tale of Two Tapes

Tape 1 (*First Half*): Following a very accommodative period of near-zero fed funds from 2008-2015, the Federal Reserve tested the waters in an effort to normalize post-crisis interest rates with a 0.25% increase in December 2015 only to have to pause for a year before beginning to raise again. As the Federal Reserve continued to attempt to transparently "normalize" monetary policy by increasing the fed funds rate quarterly in 0.25% increments, the administration's fiscal policy was giving market participants renewed optimism through a business friendly agenda.

Various factors provided a positive economic backdrop with strengthening economic momentum and pushed US equity markets higher with low volatility in the first seven months of the fiscal year led by US SmallCap equities. Those factors included:

- Low historic interest rates
- ➤ Relatively low (but increasing) inflation
- Reduced business regulations & taxes (including more aggressive depreciation schedules)
- > Talk of infrastructure spending
- > Strong job growth with low unemployment & underemployment
- ➤ Historic small business optimism, and
- Generally increased risk appetites

As a result, for the first half of the fiscal year, the PLETF equity pools had a seemingly constant march upward through January. This resulted in exceeding the 62.50% equity market value exposure and triggered another 2.5% rebalancing from equities into fixed income. It was decided to execute 1% in December and 1.5% in January. With an amazing equity rally in January, the PLETF benefitted greatly as the larger percentage was executed (stocks were sold) during the last couple of trading sessions in January – nearly the top of the market to date.

Tape 2 (Second Half): Soon after, in early February a combination of global nuclear fears, notions that the Fed may need to become more aggressive with rate hikes and a 10-Year UST breaking the 3% level reminded investors what markets look like with volatility in risk assets and equity markets dropped. Global trade conflicts and the introduction of tariffs between the US, EU, Mexico, Canada and China have kept investors wary in the second half although equity markets continue to climb, led again by US SmallCap equities and the rates curve has flattened.

Strategy: Maintain Overweight in Small Cap |

Equity Strategy - Our strategy of being overweight in SmallCap stocks continues to add to our performance. As SmallCap stocks have historically outperformed over long periods of time, our position has taken advantage of this return. Our 10% target is approximately three times more than the SmallCap exposure of the S&P 1500 total market cap. As this fund is invested in perpetuity, our goal is take advantage of this historic outperformance over time. Since inception, our SmallCap exposure has returned 13.79% (20.20% FY18), outperforming the MidCap exposure at 9.77% (13.48% FY18), our LargeCap exposure at 5.17% (14.30% FY18), and our fixed income return of 4.57% (0.19% FY18).

We will continue to invest in the individual components of the various indices per our investment policy.

Strategy: Continue to Keep Duration Short and Marginally Add Convexity |

Fixed Income Strategy – Strategy has been to be very defensively positioned on a duration basis such that Pool 205 performs well in a rising rate environment. Presently the portfolio is positioned to perform best in a "bear-steepener" scenario and a "bear-flattener" scenario.

As the portfolio has benefitted tremendously versus the benchmark FYTD, we will look to lock in relative performance and add more convexity and duration as global economic factors may be changing with European and emerging market weakness. The price of a positively convex security will rise more for a downward move in interest rates than its price declines for an equal upward move in rates.

To do this, we plan to incrementally add longer fixed rate bond positions to hedge against an economic downturn, or any possible credit-driven market dislocations, by adding UST duration at the margin and possibly swapping out of some corporate exposure. Due to larger Prop 123 monthly distributions, pool duration will extend naturally if interest rates do not decrease and our equity portfolios do not realize large appreciation and subsequent cash rebalancing back into our fixed income portfolios. Bearing this in mind, and combined with rising interest rates, we have kept our duration shorter than the benchmark by 2.39 years at 3.64 years (-0.01 MOM) versus 6.03 (unch MOM) for the SBBIG Index – the difference will likely shrink in coming months.

Endowment Monthly Land Sale Proceeds

- > +\$6.8 MM in June.
- > -\$9.4 MM vs May.
- > \$54.6 MM FYTD
- > -33.4% YOY

Endowment Prop 123 Distributions

- > \$25.3+ MM total/\$23.5+ MM for K-12 successfully distributed on time from Pool 123 on June 21st
- > \$317 MM total/\$294.8 MM for K-12 distributed FY18
- +9.36% K-12 YoY increase
- Pool 123 mechanism working well (2-3 months laddered liquidity)

Pool Performance

Portfolio standard deviation was 6.29 versus benchmark at 6.40; Portfolio is less risky/volatile versus benchmark with better total return.

- Equity Pools:
 - Pool 201 LargeCap Equity beat the S&P 500 by +2bps MOM; Up 14.3% FY18.
 - Pool 203 MidCap Equity beat the S&P 400 by +7bps MOM; Up 13.48% FY18.
 - Pool 204 SmallCap Equity lagged the S&P 600 by -7bps MOM; Up 20.2% FY18.
 - Pool weightings are within policy tolerance.
- > Fixed Income Pools:
 - Pool 205 -0.06% versus SBBIG Index at -0.17% MOM.
 - Pool 205 beat the SBBIG Index by +11bps MOM; outperforming by +64bps FYTD.
 - Pool 123 returned 0.14% beating its benchmark by +3bps FYTD.